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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hiromitsu Nishikawa

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EXAMINER

MENBERU, BENIYAM

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/627,657	Applicant(s) NISHIKAWA ET AL.	
	Examiner BENIYAM MENBERU	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,12-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1, 10, and 20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. Claim 20 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original disclosure does not have support for **“computer-readable”** medium as claimed in line 1 of claim 20 emphasis on “computer-readable”.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 6, 8, 9, 10, 12, 13, 17, 18, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application Publication No. US2001/0035968 A1 to Higashikata et al.

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Regarding claim 1, Higashikata et al '968 discloses an image processing method of generating color material data for using a plurality of kinds of color materials to output an image (page 3, paragraph 41; YMCK color material data), said method comprising the steps of:

inputting an image signal (page 3, paragraph 41; input $L^*a^*b^*$ signal);

determining a plurality of combinations of the plurality of kinds of color materials

corresponding to the inputted image signal value (page 8, paragraph 91, 92, 93;

plurality of K values corresponding to $L^*a^*b^*$ values are chosen which have total YMCK value below the coverage restriction);

calculating the total color material use amount for each of the plurality of combinations

of the plurality of kinds of color materials (page 8, paragraph 91, 92; total amount of YMCK is calculated for K values corresponding to $L^*a^*b^*$ values);

determining a nonlinear smooth variation of the total color material use amount with

respect to a variation of the value of a predetermined color represented by image

signals (Figure 12 shows smooth non-linear variation (solid curve) of total color amount

with variation of L^* values which correspond to K values (page 9, paragraph 97); page

9, paragraph 102, 103); and

selecting the total color material use amount meeting the determined non-linear smooth

variation of the total color material use amount from the determined plurality of

combinations of the plurality of kinds of color materials (page 7, paragraph 79, 80, 81;

optimal K value chosen in addition to the YMC value satisfies smooth non-linear

function for the total YMCK data shown in Figure 12; the solid curve in Figure 12 shows

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total YMCK data when optimal K is selected for generating the YMCK data (page 9, paragraph 102, 103).),

such that the total color material use amount of the plurality of kinds of color materials meets a smooth function for the total color material use amount within a range of the value of the image signal that can be inputted (page 7, paragraph 79, 80, 81; optimal K value chosen in addition to the YMC value satisfies smooth non-linear function for the total YMCK data shown in Figure 12; the solid curve in Figure 12 shows total YMCK data when optimal K is selected for generating the YMCK data (page 9, paragraph 102, 103); Figure 2 shows range of input $L^*a^*b^*$ values used for selecting K values (page 4, paragraph 44, 45, 46)).

Regarding claim 3, Higashikata et al '968 teaches all the limitations of claim 1. Further Higashikata et al '968 discloses an image processing method as claimed in claim 1, wherein said step of generating the combination includes generating the combination corresponding to the inputted image signal with reference to a table (page 4, paragraph 52; K values are generated based on table storing parameters), which determines the combination of the plurality kinds of color material so that the total color material use amount of the plurality kinds of color material, which is determined according to the combination of the plurality kinds of color material, and meets the smooth function for the total color material use amount within a range of the image signal that can be inputted (page 7, paragraph 79, 80, 81; optimal K value chosen in addition to the YMC value satisfies smooth non-linear function for the total YMCK data

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shown in Figure 12; the solid curve in Figure 12 shows total YMCK data when optimal K is selected for generating the YMCK data (page 9, paragraph 102, 103); Figure 2 shows range of input $L^*a^*b^*$ values used for selecting K values (page 4, paragraph 44, 45, 46)).

Regarding claim 4, Higashikata et al '968 teaches all the limitations of claim 1. Further Higashikata et al '968 discloses an image processing method as claimed in claim 1, further comprising the step of forming the smooth function for the total color material use amount (Figure 12, solid curve function; page 9, paragraph 102, 103).

Regarding claim 6, Higashikata et al '968 teaches all the limitations of claim 1. Further Higashikata et al '968 discloses an image processing method as claimed in claim 1, wherein the plurality of kinds of color material are yellow, magenta, cyan, and black (page 3, paragraph 41; YMCK).

Regarding claim 8, Higashikata et al '968 teaches all the limitations of claim 1. Further Higashikata et al '968 discloses an image processing method as claimed in claim 1, wherein the color material is ink (page 1, paragraph 8).

Regarding claim 9, Higashikata et al '968 teaches all the limitations of claim 1. Further Higashikata et al '968 discloses an image processing method as claimed in claim 1, wherein the color material is toner (page 1, paragraph 8).

Regarding claim 10, see rejection of claim 1 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 10.

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Regarding claim 12, see rejection of claim 3 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 12.

Regarding claim 13, see rejection of claim 4 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 13.

Regarding claim 15, see rejection of claim 6 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 15.

Regarding claim 17, see rejection of claim 8 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 17.

Regarding claim 18, see rejection of claim 9 as shown above. The method of Higashikata et al '968 renders obvious the apparatus of claim 18.

Regarding claim 20, see rejection of claim 1 as shown above. The method of Higashikata et al '968 renders obvious the programming steps of claim 20.

5. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. US2001/0035968 A1 to Higashikata et al in view of U.S. Patent No. 6058207 to Tuijin et al further in view of U.S. Patent No. 7102785 to Tamagawa.

Regarding claim 5, Higashikata et al '968 teaches all the limitations of claim 4. However Higashikata et al '968 does not disclose an image processing method as claimed in claim 4, wherein said step of forming the smooth function displays function for a total color material use amount for a predetermined color on a display device.

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Tuijin et al '207 displays function for a total color material use amount for a predetermined color on a display device (column 6, lines 57-67; column 7, lines 1-12; "Total ink value" is displayed.).

Having the system of **Higashikata et al '968** and then given the well-established teaching of **Tuijin et al '207**, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system of **Higashikata et al '968** as taught by **Tuijin et al '207**, since **Tuijin et al '207** stated in column 3, lines 6-21, such a modification would provide flexibility for color correction.

However Higashikata et al '968 does not disclose forming the smooth function based on input by an operation on the display.

Tamagawa '785 discloses forming the smooth function based on input by an operation on the display (Figure 22; column 14, lines 48-67; column 15, lines 1-3; Operator enters the smoothing range.).

Having the system of **Higashikata et al '968** and then given the well-established teaching of **Tamagawa '785**, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system of **Higashikata et al '968** as taught by **Tamagawa '785**, since **Tamagawa '785** stated in column 2, lines 3-35, such a modification would provide compensation for artifact in the color profile generation.

Regarding claim 14, see rejection of claim 5 as shown above. The method of Higashikata et al '968 in view of Tuijin et al '207 further in view of Tamagawa '785 renders obvious the apparatus of claim 14.

6. Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. US2001/0035968 A1 to Higashikata et al in view of U.S. Patent No. 6172692 to Huang et al.

Regarding claim 7, Higashikata et al '968 teaches all the limitations of claim 1. However Higashikata et al '968 does not disclose wherein colors of the plurality of kinds of color material are yellow, magenta, cyan, black, and light magenta, having lower concentration than the magenta, and light cyan, having lower concentration than the cyan.

Huang '692 discloses wherein colors of the plurality of kinds of color material are yellow, magenta, cyan, black, and light magenta, having lower concentration than the magenta, and light cyan, having lower concentration than the cyan (column 6, lines 62-67; column 7, lines 10-15; diluted reads on lower concentration).

Having the system of **Higashikata et al '968** and then given the well-established teaching of **Huang '692**, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the system of **Higashikata et al '968** as taught by **Huang '692**, since **Huang '692** stated in col. 1, Lines 19-32, such a modification would provide the color material for generating photograph type images..

Regarding claim 16, see rejection of claim 7 as shown above. The method of Higashikata et al '968 in view of Huang '692 renders obvious the apparatus of claim 16.

Other Prior Art Cited

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5172223 to Suzuki et al disclose image processing.

U.S. Patent Application Publication No. US2003/0002058 to Couwenhoven et al disclose image correction.

U.S. Patent Application Publication No. US2002/0105659 to Rozzi disclose color processing system.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENIYAM MENBERU whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571) 272-7437. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

Beniyam Menberu

/Beniyam Menberu/
Examiner, Art Unit 2625

12/30/2008

/David K Moore/

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Supervisory Patent Examiner, Art Unit 2625